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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,434

03/03/2005

Sadaaki Hirai

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OLIFF & BERRIDGE, PLC  
P.O. BOX 320850  
ALEXANDRIA, VA 22320-4850

EXAMINER

LIAO, DIANA J

ART UNIT

PAPER NUMBER

4116

MAIL DATE

DELIVERY MODE

12/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,434	<b>Applicant(s)</b> HIRAI, SADA AKI	
	<b>Examiner</b> Diana J. Liao	<b>Art Unit</b> 4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-34 is/are pending in the application.
- 4a) Of the above claim(s) 21-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/3/05, 3/25/05, 4/7/05, 3/6/06, 6/15/07</u> .                | 6) <input type="checkbox"/> Other: _____                          |



## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group II, species (d)(2) in the reply filed on 11/2/2007 is acknowledged. The traversal is on the ground(s) that all groups and species are sufficiently related and that there is no search burden. This is not found persuasive because the examiner still holds that the honeycomb structure and process to make them are distinct and require different fields of search. Honeycomb structures have been known in the art for a long time and thus, many variations and methods have been developed to make them with many distinct steps and properties. A search for the claimed method would not necessarily lead to the claimed product and vice versa. The species restrictions are also still upheld because they lack a special common technical feature. Many embodiments are listed in the specification of the instant application (paragraphs 7-46) which are presented as distinct. The common feature of these species is a honeycomb structure, which was not expected to overcome prior art and thus a lack of unity was found. The varied fields of search places a search burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 21-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Portions of claim 34 are also withdrawn from consideration in accordance

with the species election. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/2/2007.

### ***Status of the Application***

3. Claim 34 is presented for examination. Claims 21-33 have been withdrawn due to being the non-elected invention.

### ***Priority***

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. JP 2002-278657, filed on 9/25/2002.

### ***Information Disclosure Statement***

5. The information disclosure statements (IDS) were submitted on 3/3/2005, 3/25/2005, 4/7/2005, 3/6/2006, and 6/15/2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner, except where otherwise noted on the IDS.

### ***Drawings***

6. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102/103***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 34 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Locker, et al. (US 6,077,483).

Claim 34 recites a method for producing a honeycomb catalyst carrier having a honeycomb cell structure composed of a porous material with each cell functioning as a fluid passage wherein the method comprises a step selected from the group:

- i) impregnating an inorganic material into an outermost peripheral part, which has a given thickness, of the porous material of the cell structure to form an impregnated part; and then disposing an outer wall composed of a porous material so as to cover an outer periphery of the cell structure;
- ii) applying an inorganic material to an outer periphery of the cell structure to form an intermediate layer; and then disposing an outer wall composed of a porous material so as to cover the intermediate layer;
- iii) disposing an outer wall composed of a porous material so as to cover an outer periphery of the cell structure, and then impregnating an inorganic material into an outermost peripheral part, which has a given thickness, of the porous material of the outer wall to form an impregnated part;
- iv) disposing an outer wall composed of a porous material so as to cover an outer periphery of the cell structure; and then impregnating an inorganic material into the whole porous material of the outer wall to form an impregnated part; and
- v) disposing an outer wall composed of a porous material so as to cover an outer periphery of the cell structure and then applying an inorganic material so as to cover an outer periphery of the outer wall to form a coat layer.

Locker, et al. teaches a honeycomb catalyst support used for gas exhaust and applying insulating coatings on its outer surface. The honeycomb structure is made of a ceramic material and it has a substrate skin (12) that is typically the same material as the ceramic material. Disposed onto this skin is another porous ceramic barrier coating (14). (Figure 1, explained col 3, lines 53-59) The steps of the coating process onto a cordierite substrate are outlined in Example 1. According to Table 1, the coatings tested

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include cordierite, silicon carbide, alumina and silica, which are all inorganic. (col 5-6)

Cordierite is well known to be a porous catalyst support material. The step this most anticipates in the instant claim is (v) since surrounding the substrate is a skin most likely made of the cordierite of the core of the structure and then a coating is later applied to this skin, made out of an inorganic material. A step of disposing an outer wall composed of a porous material is considered to be an inherent step of this process. The outside "skin" of cell structure of Locker, et al. must have been created at some point, even if it is not disclosed as a step in the reference.

In the alternative, it would be obvious to one of ordinary skill in the art to first create a wall before placing another coating of an inorganic substance. These honeycomb catalyst carriers are often made to be cylindrical to fit into exhaust pipes and so that they have a symmetrical cross section leading to easy cartridge replacement. One would be motivated to create an outer wall of a porous material around the substrate in order to create an even porous surface outside of the substrate so that the additional coating has a good surface to adhere to. In this case, an even insulating layer is desired. A similar process of washcoating is also common, where an oxide or other porous material is first deposited onto a catalyst support in order to ensure a porous and uniform layer into which catalytic particles can be deposited. This is done mostly when the main support is perhaps chosen for its strength, sacrificing porosity. (See US 3,824,196 and 2,742,437)

Therefore, claim 34 is not patentable over the prior art.



***Conclusion***

Claim 34 was rejected. No claims have been allowed. Claims 21-33 have been withdrawn due to being the non-elected invention and were not examined.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diana J. Liao whose telephone number is 571-270-3592. The examiner can normally be reached on Monday - Friday 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJL

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/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4116